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NOTES ON LACHNOSTERNA.

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There is probably no genus of Scarabæidæ in our fauna about which so little is known by the numerous collectors in our country as *Lachnosterna*. This too in face of the fact that the species are for the most part of large size and abundant whenever found. Unfortunately there are no striking differences between the species which arrest the first glance. A few seem to have met easy recognition and are correctly named in every series examined such as *crenulata*, *hirsuta*, *hirticula*, *micans*, *tristis* and *fusca* although several species are often mixed under the latter name.

It is not surprising that attention has not been given to the species as the literature at present available does not give great assistance, and in my own case there was almost equal difficulty in arriving at a correct determination of the species with the types for comparison along with the literature.

Lachnosterna is certainly one of the most difficult genera in our fauna and the correct determination of the species has been rendered uncertain by the large proportion described from uniques.

For more than twenty years I have had in mind a careful study of the genus and have allowed no opportunity to escape that would add to the material on hand and many a time in the slow accumulation my *Lachnosterna* boxes have served as a relaxation when other work has been burdensome.

While on a visit to the Museum at Cambridge during the past Summer I had an opportunity through the kindness of the Curator, to compare a selected series from my own cabinet with the types of Dr. LeConte. With this as a basis it became necessary to go over the works of previous authors to verify the determinations and eliminate error as far as possible.

In the present short essay I propose to give the results of my synonymical study, or at least my present determinations, as a closer study when the descriptions are to be written may possibly modify the views here given.

In a paper published by me (Trans. Am. Ent. Soc. '78, p. 137-138) I have shown that Tostegoptera, Eugastra, Endrosa and Gynniss should be united with Lachnosterna. This view I have seen no reason for changing.

Among the species at present in our lists there is some confusion and more synonymy. In order to make the synonymy clear I propose to take the authors by date of seniority.

Froehlich describes *fusca* and *crenulata*.

Fabricius describes *tristis*.

Knoch describes *quercus*, *micans*, *ilicis*, *hirticula*, *hirsuta*, *pilosicollis* (=tristis) *quercina* (=fusca).

Gyllenhal describes *fervens* (=fusca) *Knochii* and *georgicana* (=crenulata).

Say describes *longitarsis*, *ephilida*, *balia* and *lancoolata*.

Harris describes *fraterna*; Hentz describes *porcina* (=ilicis).

Melsheimer describes *rugosa* and *pruinosa* || (=prunina Lec).

Blanchard (Ent. Mus. Paris) described many species from our fauna and quotes a number of others some erroneously. As many of those species were unknown to Dr. LeConte, it has been thought advisable to condense what is known of them. They are all described as Ancylynycha.

L. profunda Bl. distinct species allied to *rugosa* and *Knochii*.

" *brevicollis* Bl. a race of *fusca*.

" *fervida* ‡ Bl. is *crassissima* Bl.

" *puncticollis* Bl. probably a good species allied to *fusca*.

" *fervens* ‡ Bl. is *congrua* Lec.

" *uniformis* Bl. is *ephilida* Say.

" *pruinosa* ‡ Bl. is *gibbosa* Burm. (*futilis* Lec.)

" *crenulata* ‡ Bl. is *hirticula*,

" *crassissima* Bl. subsequently described as *obesa* Lec.

" *longicornis* Bl. I have examined the type but it is doubtful as a member of our fauna, all the other species given by Castelnau are from Brazil.

" *micans* ‡ Bl. is *prununculina* (*cerasina* Lec.)

" *diffinis* Bl. is allied to *fraterna*, has a very long antennal club and the last ventral ♂ not impressed. It is from South Carolina, M. Sallé informs me, not Texas.

Burmeister (Handbuch 1855) follows with a much greater series, described as Ancylynycha and Trichestes.

- L. quercina* Kn. is fusca.
" *fraterna* ‡ Burm. I have no doubt that this is prunina Lec. from which the pruinosity of the surface has been removed by alcohol. By admitting this, some of the following descriptions may be better understood and the species identified.

- L. micans* Knoch, correctly identified.
" *cognata* Burm. is correctly determined by Leconte.
" *gibbosa* Burm. The following remark is added to the description "One of the two specimens before me shows a remarkable anomaly; the ventral segments usually connate are free in their middle convex resembling the appearance of barrel-hoops." By this seemingly unimportant note I have discovered specimens of *futilis* Lec. which agree as well in the anomaly as in the description.

- L. Forsteri* Burm. seems to be that described as *lugubris* Lec.
" *Knochii* Gyll. Burmeister described from the type.
" *ilicis* ‡ Burm. I have specimens which seem to agree and will require a new name.

- L. fimbriata* Burm. is the true *ilicis* Knoch.
" *crenulata* Fröhl, and *hirticula* Knoch are correctly determined.
" *albina* Burm. Known to us but rare.
" *rugosa* Mels. correctly determined.
" *comata* Burm. is *balia* Say.
" *quercus* Knoch. correctly determined.
" *lanceolata* Say, under *Tostegoptera*, correctly determined.

The following are described as *Trichestes*.

- L. tristis* Fab. correctly determined.
" *comans* Burm. subsequently described as *rufiola* Lec. determined from a duplicate in Zimmerman's old collection.
L. crinita Burm. subsequently described as *glabripennis* Lec.
" *ephilida* Say. correctly determined.
" *longitarsis* Say. correctly determined by Burm. notwithstanding LeConte's opinion to the contrary.
L. prununculina Burm. since described as *cerasina* Lec.
" *gracilis* Burm. since described as *volvula* Lec.
" *dispar* Burm. Subsequently described as *Gynnis debilis* Lec.

The Revision of the *Melolonthidæ* by Dr. LeConte appeared nearly two years after the work of Burmeister. The species of *Lachnosterna* were described in part as *Eugastra*, *Endrosa* and *Gynnis*, while *Tostegoptera* was then suppressed. The following are the species :

- L. ventricosa* Lec. with *cribrosa* Lec. as synonym.
" *quercus* Knoch. correctly determined.

- L. volvula* Lec. is *gracilis* Burm.
 " *lanceolata* Say, correctly determined.
 " *aequalis* and *farcta* Lec. valid species. The first is represented by an unique.
L. torta Lec. a very distinct species.
 " *frontalis* Lec. is scarcely a variety of *longitarsis* Say.
 " *düpar* Burm. incorrectly determined, is *clemens* Horn.
 " *latifrons* Lec. a good species.
 " *cerasina* Lec. is *prununculina* Burm.
 " *ephilida* Say, correctly determined.
 " *Burmeisteri* Lec. a smaller race of *ephilida*. The name was given under the supposition that Burmeister had incorrectly determined *longitarsis* Say,
L. glaberrima Bl. correctly determined.
 " *inana* Lec. is the same as *volvula* and is *gracilis* Burm.
 " *congrua* Lec. a valid species.
 " *futilis* Lec. is *gibbosa* Burm.
 " *fusca* Fröhl. correctly determined.
 " *cephalica* Lec. very closely allied to *fusca*.
 " *decidua* Lec. is *comans* Burm.
 " *sororia* Lec. is a composite species, the ♀ type is a *micans* the ♂ is *comans* Burm.
L. micans Knoch, correctly determined,
 " *serricornis* Lec. is the ♀ of *futilis* and is *gibbosa* Burm.
 " *semicribrata* Lec. a mere variety of *lugubris*.
 " *lugubris* Lec. without much doubt *Forsteri* Burm.
 " *cognata* Burm. correctly determined.
 " *fraterna* Harr. correctly determined.
 " *lutescens* Lec. a slight variety of *lugubris*.
 " *corrosa* Lec. a valid species.
 " *calceata* and *marginalis* Lec. valid species.
 " *obesa* Lec. is *crassissima* Bl.
 " *prunina* Lec. (for *pruinosa* || Mels.) a good species.
 " *rugosa* Mels. correctly determined.
 " *affinis* Lec. a good species.
 " *Knochii* Gyll. correctly determined.
 " *ilicis* Knoch, correctly determined.
 " *ciliata* Lec. possibly a race of *ilicis*.
 " *subtonsa* Lec. is *ilicis* Burm.
 " *hirticula* Kn. and *hirsuta* Kn. correctly determined.
 " *balia* Say, correctly determined.
 " *vilifrons* Lec. a good species.

- L. hirticeps* Lec. does not differ from *vilifrons*.
" *nitida* Lec. Of this I have seen two ♀ specimens, while possibly a valid species it may be an anomalous *fusca*.
L. rufiola Lec. is *comans* Burm.
" *robusta* Lec. is *crassissima* Bl.
" *integra* Lec. This name is preoccupied, *clypeata* is suggested instead.
" *crenulata* Fröhl. and *albina* Burm. correctly determined.
" *parvidens* Lec. and *rubiginosa* Lec. valid species.
" *submucida* Lec. and *glabricula* Lec. valid species.
" *glabripennis* Lec. is *crinita* Burm.
" *tristis* Fab. correctly determined.
" *crinita* ‡ Lec. is a race of *tristis* Fab.
" *debilis* Lec. (Gynnis,) is *dispar* Burm.
" *errans* Lec. a valid species.
" *maculicollis* Lec. and *nitidula* Lec. are good species and constitute a special division.

A few other species have been described but these do not affect synonymy and are left for a fuller bibliography.

From what precedes it may be scarcely necessary to say that my work on a monograph of the species has fairly begun and has progressed so far that the species are well separated and the synoptic tables prepared subject to such modification as may be found necessary when descriptions are written.

While I must frankly admit that I do care to be interrupted in the work of writing descriptions of about eighty species, I am perfectly willing to return the names to any one who will send carefully compared duplicates of any species, preferably both sexes. I cannot at present consent to receive any which must be returned.

Some Additional Synonymy.

Agrilus texanus Crotch, on comparison this species proves to be *cavata* Chev.

Cymatodera fallax Horn, is *balteata* Lec. My error resulted from an accidental change of label in the Leconte collection.

Trox foveicollis Har., is *insularis* Chev.
